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The New Zealand Beekeepers' Journal.

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ASSOCIATION OF N.Z

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The New Zealand Beekeepers' Journal

The Official Organ of the
National Beekeepers' Association of N.Z.

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National Beekeepers' Association of New Zealand.

The object of the Association is the improvement of the Beekeeping Industry and furthering the interests and prosperity of the Beekeepers throughout the Dominion. Membership is extended to any Beekeeper who is in accord with the aims and objects of the Association on payment of fees as follows:—1 to 15 Hives, 5/-; 16 to 50 Hives, 10/-; 51 to 100 Hives, 15/-; 100 to 200 Hives, 20/-; every additional 100, 5/- extra.

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All communications respecting the Association and Journal to be sent to
FRED C. BAINES, Kati Kati.

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EDITORIAL.

The Committee appointed at the last Conference to confer with the Director-General and officers of the Department of Agriculture on the matter of Apiary Boundaries drew up the following clauses for the consideration of the Executive of the National:—

1. Any apiary of more than ten colonies shall be considered a commercial apiary.

2. Every commercial apiary and out-apiary shall be annually licensed by the Department.

3. Before any new apiary or out-apiary can be licensed the apiarist must make application to the Executive of the National Beekeepers' Association, which shall examine the site, and if, in their opinion, there is room for another apiary, they shall recommend the Department to issue the license.

4. In the event of any bona fide farmer desiring to become a commercial apiarist, he will make application to

the National Beekeepers' Association, who will recommend the license. Notice shall then be given to such apiarists as are not bona fide farmers to remove within a specified time any out-apiaries owned by them which would interfere with the profitable working of the farmer's apiary: Provided that no such notice shall be served on an apiarist who holds the freehold or registered leasehold of the said out-apiary site.

5. No commercial beekeeper to be allowed to work on shares such an apiary as is described in Clause 4.

6. In the event of any application for a new apiary site not being recommended by the National Beekeepers' Association, the applicant may appeal to the Department, and the decision of the Department shall be final.

We are afraid there are many debatable points in these clauses, but at the same time we believe they are an honest attempt to get over the difficulty. It must also be understood that these clauses do not mean that the final word has been spoken: the Executive may alter them. It is hoped that a meeting of the Committee and the Executive can be arranged at an early date, so that the matter can be thoroughly discussed and, if possible, a satisfactory solution arrived at. Our opinion is that the clauses eventually decided upon by the Committee and Executive will be again discussed at the next Conference. The Conference last year appointed the Committee; we take it they will again submit the clauses to the Assembly; so the Department will recognise that these are the outcome of the most careful and thoughtful study of a question that means much to the industry.

Mr. J. S. Cotterell, who was appointed to act on the Committee, was unable to be present. His place was filled by Mr. R. H. Nelson.

* * * *

The Executive has decided that the next Conference is to be held in Christchurch. This news will please our southern friends, and we hope they will all support the gathering very emphatically. We shall look to our oldest established branch—Canterbury—to be up and doing, and prove to the Executive that they were wise in giving the South Island a chance of showing what they could do.

* * * *

We learn that Mr. Robert Dick has been appointed apiary inspector for the Canterbury District. Mr. Dick put in the whole of last season at the Ruakura State Apiary as a cadet.

* * * *

On the question as to whether it is possible for the drone and queen to mate inside the hive, Mr. Bartlett-Miller some time ago gave us a case where this was accomplished. Mr. E. G. Ward and his wife actually saw a drone and queen "cuddling" in the hive, but unfortunately the queen disappeared instead of fulfilling her destiny. In the British Bee Journal dated May 15th, 1919, the following letter appears:—

DO QUEENS MATE IN THE HIVE?

"I am amazed at the widespread belief that queen bees can only be mated on the wing. I never did entertain that belief, and the following case is proof of my conviction: Eight or ten years ago, near the end of the season, one of my queens became exhausted, and according to instinct before total exhaustion, the bees commenced to raise some young queens to perpetuate the species. As soon as I discovered this, I removed the old queen, destroyed her, and allowed a young queen to hatch. Well! I can positively affirm that for some days previous and for weeks after the hatching of the young queen, the weather was so boisterous and stormy without cessation, that never a bee dare point her nose out of the hive. However, I had always good faith she would get fertilised all right inside the hive, so to make sure I inspected the hive the first opportunity after the stormy weather, and found the young queen not only fertilised, but breeding immensely. I sent an intimation of the fact to The British Bee Journal at the time.—David Hunter."

Against this we have read many times of the actual witnessing of the copulation on the wing, with the death of the drone. We suppose these singular occurrences would be called "mutations," which, according to the dictionary, means the act or process of changing; alteration. Now, the Editor is not a scientist, and can only look at the matter from a layman's point of view, and even from that there are wonderful possibilities of an improved strain of bees if one could be absolutely sure that he possessed a queen that was mated within the hive. We take it this peculiarity would be inherent in her progeny, consequently both drones and queens raised from her eggs would also mate within the hive. But one queen would not be sufficient, else it would be a case of inbreeding the whole way, which we believe tends the reverse way of improvement. The only occurrence in the Editor's experience that now looks as if a queen here and there has the inclination to mate within the hive was that a young queen was hatched, and to all appearances was a perfect queen—certainly her wings were perfect and her body a beautiful shape; but although the weather (in January) was just what one wants when young queens are flying, this particular queen did not get mated, and after the Editor waiting just over four weeks for the happy event to take place, she was unmercifully killed. Is it possible that she was waiting a drone of the "Barkis is willin'" type within the hive? In any case, the subject is a very interesting one, and as there are such tremendous possibilities for the good of the industry if mating within the hive were to become a natural function, we hope our

friends will keep a good watch out for any occurrence that would give reason for believing that they had a queen or queens with this tendency and let us know.

* * * *

The following newspaper clipping has been sent us asking for information on the subject, whether there is a law that defines the distance that bees shall be placed from the public road.

"The Waipa County Council decided yesterday to secure the opinion of the Counties' Association's solicitor on the question of the nuisance caused by colonies of bees established near public roads."

There is no law governing this, but an apiarist must use common-sense in placing his hives. You cannot keep bees or any other stock that are a proved nuisance to the public; and whoever the apiarist is that has caused the above item of news, he will find that the law can compel him to put his bees sufficiently far away from the road to minimise the risk of people and horses being stung. There is no doubt whatever that bees are a dangerous nuisance when the apiary is near the main road. If a man happens to live on a main road, then he should put his bees right at the back of his place, not nearer than about 50 yards from the road.

* * * *

Just as the Journal was going to press the following telegram was received:—"Owing difficulty Government regulations and unsuitable screw-tapped containers, Directors decided use lever lids for export for the coming season; not to be greater than 2¾-inch diameter."

Market Reports.

There has been a fair export demand for Chilian honey in the past month, 425 barrels of Chilian and 100 cases of white Californian and other kinds having been disposed of at the following rates.—White Californian, 90/- per cwt.; West Indian, 60/- to 69/- per cwt.; Jamaican, 66/- to 69/- per cwt. Chilian—Pile X, 84/- per cwt.; Pile 1, 75/- per cwt.; Pile 2, 72/6 per cwt.; Pile 3, 69/- to 70/- per cwt.; No Pile, 54/- per cwt.

We hear from the Continent that there are good supplies in some countries, and the price consequently has a lowering tendency there, so we are afraid there is not much prospect of any great rise on this market.

Beeswax.—At last we see a little animation in the price of this article. Fifty sacks Chilian have been sold at £11 per cwt. The market in Chili has advanced owing to America buying there. Cuban should be worth about £10 per cwt., other qualities in proportion.

TAYLOR & CO.

Liverpool, 23rd July, 1919.

The Director of the Horticulture Division has received from the apiary instructors the following report concerning the honey crop prospects:—

Auckland.—The past month has been very windy and rather cold, preventing the bees obtaining as much nectar as would be possible under more favourable weather conditions. The local markets indicate that prices for both honey and wax have an upward tendency. The prospects generally indicate a fair season.—G. V. Westbrooke.

Wellington.—The honey crop prospects are practically the same as my last report. All honey has ceased to come forward to the grading stores pending the new crop. No bulk lines are available. Prices are as previously stated.—F. A. Jacobsen.

Christchurch and Dunedin.—There is every prospect of there being another record season in the South Island this year. Generally the bees have wintered well, and beekeepers are extending operations. Splendid rains have fallen, and these will have a good effect on the clover pastures. The market is bare of supplies, no bulk honey offering. A few small consignments of H.P.A. honey are coming forward. Pat honey is scarce. Beeswax, in strong demand, 2/- per lb.—E. A. Earp.

The State Apiary at Ruakura.

We paid a visit to the State Apiary at Ruakura on 24th September, and found everything in readiness for another successful season, under the capable guidance of Mr. A. B. Trythall, officer in charge. The apiary consists of about 130 colonies, which were all building up nicely. Feeding with sugar syrup was being done owing to rough weather and the consequent lack of stores coming in.

At the time of writing, Mr. Trythall had 36 cadets, twenty of whom are returned soldiers and 16 ladies, seven of whom are nurses returned from the war. There are yet another twelve lady cadets to come.

One of the returned soldier cadets is seriously handicapped in the loss of one arm, but as this gentleman gained the distinction of the Military Cross at the war, we are pretty certain he will "win through" with the industry. It is interesting to note that a last year's cadet who was similarly handicapped started the season with 200 colonies of his own, and we wish him all the good luck possible.

There were considerably more applications from returned soldiers than could be accommodated. The Government put up a large number of accommodation huts, but evidently not sufficient to meet the demand.

The manager of the Farm has gone to considerable trouble to make the cadets' stay at Ruakura not only a course of instruction, but a really pleasant time, as there are two tennis courts alongside the apiary; and social evenings are arranged at the homestead at intervals.

Arrangements are also being made by which the cadets can visit apiaries where disease exists, and thus get experience in both the appearance and effects of the trouble, also the treatment.

Bee Paralysis.

A Paper read by Mr F. R. BEUHNE, Government Apiculturist, at the Victorian Apiarists' Conference, Maryborough, in June, 1919.

Bee paralysis is a disease of the adult bee, and probably a germ disease. No germ, however, which can be considered the cause has up to the present been discovered. It is a contagious disease, but infection takes place only by direct contact between affected and predisposed bees. Infection is not carried by brood, combs, honey, or pollen. In dealing with this trouble it is important that these factors should be understood.

The symptoms of bee paralysis vary at different stages of the disease, and also with the age of the bees affected. The first indication is sometimes the presence in the hive of a few shiny, oily and emaciated looking bees; at other times the first sign is a few bees with abnormally inflated abdomen. Their movements are jerky, the legs extended sideways, the wings spread out and showing a twitching movement at short intervals. In a short time the number of bloated bees increases; they may be seen leaving the hive and dying after crawling a short distance. When the hive is opened some of them come on to the top of the frames and refuse to move when smoke is blown on to them. During the early stages of the disease the sick bees are generally being pulled about and sometimes dragged out of the hive by the other bees. The oily appearance of some of the affected bees is due to the hairs on their bodies having been pulled off, and this is, perhaps, one of the ways in which infection is transferred from bee to bee. When the disease reaches the final stage even newly hatched bees will become infected. They do not, however, show the characteristic bloated abdomen, but look quite normal; they crawl out of the hive and die. One peculiarity of bees

dying from paralysis is that the process is very gradual. A bee picked up, apparently dead, will move its legs, and hours afterwards warmth will cause it to move still.

The healthy bees of an affected hive try to remove the sick bees and drag dead and dying out of the entrance, and in this effort they become themselves affected. Possibly infection also takes place by older bees feeding the younger ones. But in whatever way it is communicated it infects only bees of the same colony or of the same strain. So when we take away all the brood from a colony affected with paralysis and put in its place the brood from resistant stock the young bees hatching from it, although surrounded by infected bees, will not become infected, and as the old bees die off the hive becomes free from disease. Unless, however, the queen is replaced at the same time there is every likelihood of paralysis again leaking out. The brood taken away from an infected colony can be given to any colony free from the disease, and there will be no outbreak provided that no bees are transferred with the combs. This seems to prove conclusively that combs, brood, honey and pollen do not carry infection, and that young bees only become infected after hatching, by contact with the diseased bees.

Bee paralysis is a disease which is more prevalent and more virulent in hot than cool climates. In the United States of America paralysis is a formidable disease in the warm southern States, while in the cooler northern latitudes there are merely indications of its presence. In Victoria it is sometimes of a very virulent type north of the Dividing Range, while in the coastal country it is hardly noticeable. If it were correct that the warmer the climate the severer the disease, then we should expect it to be worse in the northern States of Australia than in Victoria. However, I am not aware that such is the case. There are probably other factors than latitude, such as food and elevation, etc. I do not know whether bee paralysis is more prevalent in the northern latitudes, which correspond to the southern in America; but I do know that queens and their queen and worker progeny obtained from localities in which paralysis is practically unknown, often develop the disease in a virulent form when introduced into apiaries from which paralysis has been eliminated. Judging by this experience, we must assume that paralysis is not in evidence in the northern States, for I know of quite a number of instances of outbreaks of this disease amongst the progeny of the queens obtained from there, and I am quite sure that no queen breeder would breed and send out anything likely to bring him into disrepute. There are numerous instances of paralysis breaking out amongst the bees of queens introduced into an apiary from outside the State, while the local strain remained unaffected. I will only give one personal experience. Some fifty colonies of bees, from an apiary without a sign of paralysis, were sent to me some years ago from a distance of 200 miles. There was not the least indication of paralysis in my own apiary, to which the new arrivals were added. Yet within a short time nearly every one of the newcomers developed paralysis of a very virulent type. All were re-queened in due course from the local strain, and in time the symptoms disappeared, while none of my own colonies were affected. In view of the experience of many apiarists there can be no doubt that by a process of weeding out and select breeding from the most vigorous stocks a more or less immune strain of bees can be established.

Having established a comparatively immune strain of bees this immunity is not easily maintained. In the process of eliminating paralysis there may be a loss of colour and an addition of temper, and the apiarist comes to the conclusion that he must introduce fresh blood. Being unable to get it from a locality similar to his own, he goes further afield. He gets colour and gentleness, and very likely also paralysis. Sometimes it does not show in the hives with the new queens till the following spring. In the meantime some of the young queens of his own strain have been mated to drones of the new kind, and thus the predisposition to paralysis is incorporated again in the apiary. Incidentally I should like to say here that there is often no need for new blood, and queens are sometimes introduced only with the idea of preventing in-breeding. There need be no fear of in-breeding as long as intelligence and common sense are used in selection of breeding queens. When it is necessary or expedient to obtain queens from unknown sources for breeding purposes caution should be exercised, and only a limited number of young queens should be raised during the first season. If these and the parent colony pass through the following winter and spring without indications of paralysis then re-queening can be practised on a more extensive scale.

There is no cure for bees affected with paralysis, and the only treatment at all effective is to replace the affected and predisposed with others immune to the disease. This is done when the disease is only of a mild type by replacing the queen with one of another strain. When a colony is badly affected it is necessary to change the brood at the same time, otherwise there may not be enough active bees left in the hive by the time the brood from the new queen begins to hatch. Even in the worst cases, when there are not enough bees left to be worth saving, there is no need to destroy or waste the brood. It may be given to unaffected colonies without risk, provided that no bees are transferred with it. To sum up the position in regard to bee paralysis, the following points may be recommended:—(1) Don't try to cure paralysis with sulphur, salt or any other remedy; these only affect the symptoms without removing the cause. (2) Don't breed from queens producing highly coloured bees and queens, particularly those having an abnormal amount of brood

—a sign of weakness. (3) Destroy and replace the queens of any colonies showing the slightest symptom of paralysis, no matter how beautiful and gentle the bees or how prosperous the colony may be. (4) Introduce new blood cautiously, and as far as possible from districts in which paralysis has run its course.—The Australasian Beekeeper, July 15, 1919.

Beekeeping for Beginners.

[As these Instructions conform to the seasons in the Auckland Districts, an allowance must be made for difference in latitude North and South. Average bee-seasons in the extreme North are four weeks earlier, and in Southland three weeks later.—Ed.]

November is a month that calls for great attention with the bees if we are to get the best results.

The hives should now be quite strong, and the strongest will probably show signs of preparation for swarming by the building of queen cells. If one is desirous of increase and can "watch out," the bees can be allowed to swarm once, providing that the hive that swarmed is gone through and all queen cells cut out except one of the best. If this is not done there is a great possibility of after-swarms, which are undesirable.

The same result as natural swarming can be brought about by the following manipulation:—When the hive is well filled with bees and brood, take a super of empty frames and a queen-excluder. Take out two empty frames, then go through the hive and find the frame with the queen on; place this with another having plenty of honey and pollen in the centre of the empty frames. Remove the old hive from the bottom board, and place the new one with the queen in its place. On top of this place the queen-excluder, then the old hive containing the brood and bees, placing the two empty combs at the outer sides.

As the young bees hatch out of the upper super, they will soon be looking for young brood to feed, and as there are none coming along they will be led to think they have no queen, and will start cells to raise one. Ten days after this manipulation, see that queen cells are in evidence, and carefully move the whole of the upper super to a fresh bottom board on a new stand. All the old bees will fly back to the old stand, leaving only the young bees and queen cells. In about a fortnight the young queen should be laying, and you thus have your increase. It is only in very exceptional cases that the parent hive attempts to swarm after this manipulation.

Should you not desire increase, at the end of five days after making the first manipulation, go carefully through the combs in the upper super and crush all cells that are being formed, then place a super of empty combs between the two. This will give you a large force of bees in the one hive, and under ordinary conditions return a large surplus.

District Reports.

TARANAKI.

The spring so far has been very disappointing. Owing to unsettled weather, the bees missed what few willows we have.

Dandelion is in bloom now and during the very few nice warm days the bees gathered a little from that source.

Allan Bates has returned, and spent a week in the district, and had a look over his bees, which have been run on shares for the two years he was away. He will probably settle in Taranaki again, and carry on with the bees, but during his short stay was unable to get a place of abode.

14/10/19. H. R. PENNY.

TAIERI.

Mr. Editor, pray allow me to vent my spleen on my fellow-beekeepers in the Taieri. I would ask them if they credit me with an imagination of evergreen fertility that they leave me alone and unaided to compile these monthly fairy tales (for such they are)? Body o' me! I had as lief attempt to cajole a firkin of butter from a grocer or to move a profiteer to pity as to extract a solitary grain of information from these Taierians. I have spoken!

I cannot trust myself to speak of the weather, as my typewriter is not fitted with emergency brakes, nor have I (unmindful of the Editor's warning) a Minimax within reach. You may judge, then, that our prospects at present are not of the brightest. I do not mean to convey the impression that prospects are ever rosy in this locality. The consensus of opinion is that beekeeping in the Taieri is not exactly a moneymaking proposition, and that if operations be averaged over a long period, profits and losses will be found to balance. Hence, when a man begins to discourse on the possibilities of beekeeping in the Taieri we suspect him of having a gold brick to dispose of.

However, our crops may be a little larger this year as there will be some 3,000,000 winged foragers absent from the clover patches. The past winter saw the departure of two fairly large apiaries—those of Mr. Watson and Mrs. Earp. Our benison be upon them!

My one and only reporter (unpaid) in the Taieri has just furnished me with a pretty illustration of the kindliness of

bees. Somewhere under the dark shadow of Maungatua there lives a man infected with apiarism. Recently, on one of those fine days so rare in these parts, he made a tour of inspection among his hives. Now, hear what he found: The lid of one hive had been slightly lifted, may be by the wind, may be by the agency of Providence; two hungry, homeless blackbirds, seizing the opportunity, had entered therein and built a cosy nest. The bees, finding their guests of a peaceful nature, made no protest—nay, even countenanced the occupation. We are eagerly awaiting news of the hatching of the eggs, and we hope that the blackbirds, remembering that one good turn deserves another, will not feed their younglings on prime honey-fed bees!

As I read the article on Solar extractors in the last issue, it occurred to me that my own system of construction might be of interest to intending builders. The Editor builds his logically, as one should; but I, so to speak, began at the end and worked backwards. I procured from a building in course of demolition a window-sash (glass fitted), size 4 x 2, for 4/-, thereby saving hours of toil and heaps of money. I then built my extractor round this frame. It is a roaring success, though the glass is fairly thin window quality. I have had no experience with these engines, but I judge that it would be sheer extravagance to buy plate glass—more so if you can obtain glass and sash as cheaply as I did.

BASIL H. HOWARD.

AUCKLAND.

A meeting of the Auckland Provincial Branch was held in Hamilton on 25th September, and was the largest attended meeting for some time, about 30 members being present. Mr. Sage (President of the Association) occupied the chair, and he had the pleasure of extending a hearty welcome home to several of our members that have recently returned from active service.

Conference Report.—Mr. C. S. Horn reported that our remit re appointment of local inspectors had been withdrawn owing to Mr. T. W. Kirk (Director of Horticulture) stating that more permanent inspectors were being appointed, and that local inspectors would be relieved.

Apiary Boundaries.—A Committee had been appointed to confer with the Departmental officers, and these gentlemen had recently met in Wellington and drawn up a basis on which to work. A good deal of discussion took place, and it was eventually decided that these suggestions be endorsed for the Executive of the National to make any alterations that seemed necessary, and pass them on to the Department to be made law.

Policy of the Journal.—It was proposed by Mr. Copsey, seconded by Mr. Jamieson, that this Association has confidence in the policy of the Journal, and see no just reason why any advertising matter should be refused.

Field Day.—It was proposed by Mr. Rowbothan and seconded by Mr. Horn, that Field Day should take place last week in January, Messrs. Trythall, Westbrooke, President, Vice-President, and Secretary to be the Committee to arrange programme. Resolved that each person provide their own eatables—tea, soft drinks and crockery provided free.

New Inspectors and Location.—The Secretary was instructed to write to the Department asking that two more permanent inspectors be appointed, and that at least one should reside in Hamilton.

Library.—It was resolved that the Secretary be authorised to spend £5 to procure books to form nucleus for this purpose.

Mr. C. F. Rylands, manager H.P.A., was in attendance, and gave an interesting account of the doings of the Company, which was listened to attentively. At the close, What are we going to get for our honey? was the question, and although this could not be answered definitely, each member left feeling satisfied that their interests were being looked after pretty thoroughly.

Field Day.—Owing to the directors of the H.P.A. having fixed their next meeting for Hamilton early in February—and we hope the National Executive meeting will be held here also—the Committee have thought it advisable to alter Field Day to suit. This will now take place first Wednesday in February, the 4th. All pray for fine weather that day!

A. H. DAVIES.

HAWKE'S BAY: FIELD DAY.

About 50 beekeepers, both ladies and gentlemen, gathered at Mr. Shepherd's apiary for the demonstration conducted by Mr. F. A. Jacobsen, apiary instructor, under the auspices of the Hawke's Bay Beekeepers' Association. Mr. Jacobsen spoke of the objects of looking through the colonies, and described the tools necessary, and explained their use. Upon opening the hive, he showed how a good hive should have bees clustering on the combs, and then went through the combs, frame by frame. The queen was found, and larvae in different stages pointed out. Onlookers asked questions about the handling of bees, and received very satisfactory answers. Later, a hive was examined for foul-brood, and the treatment of the disease fully described and discussed.

Questions on any branch of beekeeping were invited by Mr. Jacobsen and answered, and at the same time an exhibition of the process of fitting up the frame, from the driving of the nails to the embedding of the wire, was given by Mr. Shepherd.

Visitors attended the demonstration from far and near, and opportunity was taken by beekeepers to get into touch with those in other localities.

Votes of thanks were carried unanimously in favour of Mr. Jacobsen, and of Mrs. Shepherd and her willing band who served the afternoon tea.

In the evening a very much appreciated lecture was given by Mr. Jacobsen on "The Position of the Honey Bee in the Animal Kingdom" and "Commercial Varieties of Bees."

J. B. BOYLE, Hon. Sec.

Canterbury Tales.

By E. G. WARD.

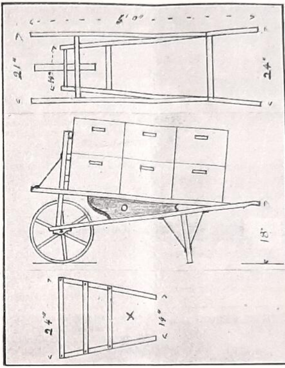
I paid a visit to my apiary on 7th September, and spent a couple of pleasant days among the bees. I found they had wintered well, and that there were hatched drones in one of the best hives.

The weather during my stay was ideal, but has been very changeable since. Considerable rain has fallen, and a good deal of wind has "blowed," and some very nice days have been sandwiched in between. On the whole, I like the prospects for a good crop much better than I did two months ago.

"To be (used) or not to be!" That is the question.—A short time ago it was announced that petrol tins would not be allowed. Now, a good many people want to know whether that was a bit of bluff, because, if not, there is considerable printer's ink being wasted in resurrecting the subject again. I put my weight on the side of the petrol tin when the idea of using them was first mooted; but I'm going to go over to the "enemy." I have heard and seen enough to convince me that it is bad business, and may be a very expensive business in the long run.

I had the pleasure of an introduction to Mr. Dick, the newly-appointed inspector for Canterbury, about six weeks ago. Mr. Earp, who brought him to see me, stated that he has a very keen eye for box hives, so as "a nod is as good as a wink," anyone who knows of the existence of any of the above abominations need only just drop a hint to his headquarters (in Christchurch), and the matter will be "noted."

Our worthy Editor wrote a few days ago, "Next Conference in Christchurch; don't get excited." No, Sir, but I am very pleased to get the news and I feel very sure that a good many here will metaphorically shout "Hurrah!" I trust Canterbury beekeepers will rise to the occasion, and that there will be a record attendance, and that the visitors will be given a real good time, and—and—&c., &c.



In compliance with Mr. Watson's request in last month's Journal, I am sending a sketch of my apiary wheelbarrow. It would be hardly possible to describe it clearly enough for anyone to make it without some kind of illustration, so I hope the Editor will think it worth while to have it included. The framing is made of colonial ash, but good dry bluegum or stringy bark would do equally as well. The frame marked X is 1¾ in. x ⅞ in.; all the rest is 1¾ in. x 1⅜ in., finished sizes. The brackets are ¾ x ¼ iron. The platform to carry the supers is made of petrol case sides, which are nailed on top of the frame. The brackets O are fitted in after the platform has been fixed in position, and may be made of any suitable timber, either new or second-hand. They will require a bit of careful fitting, and should be screwed in position before the floor boards are nailed on. My wheel is iron, 20 in. in diameter, but I think 18 in. diameter with a good wide tyre would be better. In designing the barrow, my idea was to get the weight over the wheel as much as possible. This it does, and I trust whoever makes one will find it as useful and satisfactory as I have found mine.

Correspondence.

[The publication of any letter does not necessarily imply our agreement with the subject matter, and we do not hold ourselves responsible for the opinions expressed by correspondents.]

Secretary National Beekeepers' Assn.

Sir,—Yours of 12th inst. to hand. More than ever do I wonder what the National exists for. So there is no duty on imported timber? Well, well! If that gets abroad, quite a number of merchants will be claiming refunds of duty wrongly paid. Suppose the Government and the beekeepers say they won't support a thing that doesn't exist, then I presume you would act no farther! No subsidies; no subscriptions; no salaries paid! It seems to me that the most important business last Conference was to have it properly carried that salaries be increased, or something to that effect, and, that done, nothing else matters! It doesn't matter to me either what happens the National or the duty on timber. I have got my equipment at old prices, but the fellow starting now is the one who feels it; so please don't study me!

Now, as to concessions on railways, I cannot instruct you to inform your President, but you may do so if you think it will not displace his self-satisfaction, which I would not care to deprive him of; but this little information may be of use to you in showing you the uselessness of the National. None of our wax has been carried in the Parcels class, but all of it has gone through the Goods, and the only lot that has been refused carriage was one at Palmerston North for Wellington. It was motored to Wellington. We are now sending foundation through the Goods, and it is being carried. Some has reached further south than Oamaru. I cannot expect permission to write in your Journal on the ineffectiveness of the National, as proved by the admissions of its secretary and other correspondence I have received, but the information may be useful to another Journal.

As far as I am concerned, you will appeal in vain for any matter for your Journal. When the August number arrived late with the Kati Kati postmark, I was sorry I had sent the sub., and more so when I opened it. You are paid to edit it, but you evidently cannot do that, so how can you expect anyone with any self-esteem to contribute? I notice you do not use letters like this for padding, but I don't suppose it is for want of them. Judging from what I heard at the Conference, your subscription list is likely to continue going down. I was approached by more than one ex-member of the Executive to know whether I would take on again the editorship. But my reply was to the effect that although I thought there was room for considerable improvement, and that might take place this year if you were given a good knock and had the gumption "to take a tumble." You can if you like get up on your little bit of dignity, but it won't help you to see any farther than if you stood on a sheet of paper! That will be your loss and not mine. Finally it will do you good to go on puzzling till the end of the year to know whether I am a member of the National or not.—I am, &c.,

W. B. BRAY.

Barry's Bay, 18th Sept. 1919.

[The above is the final letter bearing upon a motion of Mr. Bray's that was passed at Conference on getting the duty lifted from imported timber that was suitable for making hives. The Secretary wrote Mr. Bray asking him for further particulars as to what timber was imported for that purpose, to which he replied that at present none was, but if we did it would

probably be such-and-such. It was felt that we hadn't any solid ground for the request, and after further correspondence the whole was submitted to the President for his ruling and instructions, which were that it would be advisable to wait until the necessity arose for importing timber before making the request.

Regarding the carriage of supplies on the railway whilst the "cut" was on, Mr. Bray was informed of the action taken by the President right at the start, who obtained from the General Manager all the concessions that had at that time been given; but all Mr. Bray can do is to make the insulting remark as above.

As regards Mr. Bray's help with the Journal, we find he wrote three letters during the last 18 months, chiefly of a criticising nature. When "Bees" ceased writing the Beginners' Column, Mr. Bray offered to carry it on. After disappointing the Editor the first month, on being written to he stated that he had decided not to do it.

Mr. Bray states in the above that he notices we do not use similar letters to his for "padding" in the Journal; but as this one is absolutely unique in this respect, we willingly insert it for two reasons: First, it will give readers an opportunity of doing Mr. Bray and his self-esteem justice; and, secondly, it will show his kindly disposition to the National and its officers. The bouquets thrown at the Editor are accepted with thanks. We trust Mr. Bray and his self-esteem will be fully appreciated by "another Journal."—Ed.]

Kati Kati, Sept. 26th, 1919.

Mr. W. B. Bray, Barry's Bay.

Dear Sir,—Yours of the 18th inst. to hand, and your remarks carefully noted. I too am sorry that you sent your subscription to the Journal, and am therefore returning the 5/-, and have erased your name from the subscribers' list.

Re membership of the National: There need be no guessing about this. Your subscription was paid up to 31st May of this year, so that for the current year you are unfinancial. This being so, you will have no further need to support a useless organisation, and I have cancelled your name from the members' list.

Yours faithfully,
FRED C. BAINES,
Secretary.

* * * *

(TO THE EDITOR.)

Sir,—My husband gets so excited when the Journal arrives, and his eyes sparkle as he reads aloud the Editorial. Everything can wait, dinner get cold, while he glances through the Journal. Then after dinner he settles down to read it. I was an amateur beekeeper myself six months ago; now we have joined forces. August 8th, your fingers itched; September 8th, Mr. Walton introduced two virgin queens and some queen-cells, and has two other hives rearing queens, and has had three swarms, which are doing well. Ti-tree is just full of nectar. Bees have been working it all through the winter.—I am, &c.,

LAURA WALTON.

Oruru, Mangonui, Sept. 19th, 1919.

* * * *

(TO THE EDITOR.)

Sir,—I notice Mr. James Allan hopes the miners will emulate the spirit that actuates the bee-hive. I wonder if the poor bees think like us when you take off the surplus honey. Perhaps a good dose of smoke would put us right! I would also like to see equal number of directors in both Islands, as otherwise I am afraid it will only mean trouble. Of course, I am only looking from the point in which we miners are placed to-day. The miners in the North Island are always in the minority, so we get very little say; and if the beekeepers in the South get more directors than the North, the North will have very little say, so let the North have the same as the South. Thanking you for the interesting reading I get from the Journal, and enclosing subscription for same,—I am, &c.,

H. BRAITHWAITE.

Pukemiro, near Huntly, 12th Oct., 1919.

* * * *

(TO THE EDITOR.)

Sir,—I have been following up the discussion of the different men writing on second-hand packages and benzine tins, and will give you my verdict in a nutshell. The man is to blame for the packages not being considered suitable. It seems to me that some men are not fitted to handle their own business. If more care was taken in getting up these packages for export—new, clean-looking tins, with new tops, the case planed outside, with new strapping iron—the package would never be turned down. But if you could see the packages I saw in the different grading stores, you would not be surprised if the grader turned down every one. It is not a matter of new tins, it is having them clean, strong and attractive. But for men to put up their honey as I saw in the North Island is only a detriment to the industry and an insult to the grader. I saw honey for export competing for a gold medal at the Palmerston North Show that was put up in old dirty tins, almost black. What do you think of these men competing for gold medals? Is it not time we made men understand what is really wanted? I think we want to do some educating. It is not only second-hand packages that are at fault. I saw new cases and tins in almost as bad a condition. Some men do not seem to understand what is wanted. Fancy sending honey not cased, and the tins arriving dented and leaky!

Now, Mr. Editor, what do you think of it? Is it any wonder that the Government calls a halt? These careless ones are to blame, and we all have to suffer.

A prosperous season to you.—I am, &c.,
C. A. JACOBSEN.

Little River, Oct. 6th, 1919.

[Friend J., if you refer to our remarks in the April, 1918, Journal, you will see that we wrote in exactly the same strain as you do now. Many have complained that the Editor has always opposed the use of these containers, but he has been in the grading stores more than once, and has been disgusted with the state of the majority of second-hand packages.—Ed.]

* * * *

(TO THE EDITOR.)

Sir,—The following particulars showing Government methods of doing business in their queen-rearing department may be of interest to some of your readers, and returned soldiers in particular.

Since returning from active service I have established an apiary at Opotiki, and with the object of increase and improving the strain of bees, I decided to purchase 50 queens this season. As the Government advertise a 25 per cent. reduction to returned soldiers, I wrote Mr. Westbrooke in July last asking for particulars re ordering, and he referred me to the Manager, Queen-rearing Department, Tauranga. I wrote this gentleman re prices and conditions of sale, and was referred to the Manager, State Farm, Ruakura. I therefore wrote this gentleman, ordering my 50 queens for delivery this reason, giving my bona fides of active service, and enclosing my cheque. I received the following reply:

"I regret to inform you that I have no bees available for disposal, but if you communicate with Mr. Westbrooke, Department of Agriculture, Auckland, he will be able to give you some assistance in obtaining your requirements. Please find your cheque enclosed."

Well, Sir, we all know it is hard to get the Government to move, but this motion in cycles is something new to me. It would be interesting to "carry on," and see how many revolutions per annum it would make; but the seasons will not stand still while the game is on, so it cannot be done. I will have to look elsewhere for my queens.—I am, &c.,
C. J. HOLLARD,
Capt. Reserve of Officers.

Opotiki, 18/9/19.

An Ass once put on a Lion's skin and went about frightening all the silly beasts he met. Seeing a Fox, he tried to give him a fright also, but Reynard, having heard his voice, said, "Well, to be sure! I should have been frightened, too, if I had not heard you bray."—Æsop's Fables.

* * * *

Fond Mother, seeing the recruits march past: Here they are. Don't they look fine? And, look, they're all out of step except my Bill.

(TO THE EDITOR.)

Sir,—During the past summer I experimented in a small way with what would be called in America "The Long Idea Hive"—that is, a hive which instead of tiering up in the orthodox fashion, you provide the extra space on the sides of the brood-nest. The result of such experiment was sufficient to give me an idea that it might be worth following in a bigger way. I am desirous of knowing whether in your experience this class of hive has ever been tried by commercial beekeepers in New Zealand, and with what result. The hive that I tried my experiment on was just a rough, home-made article, and I noticed during manipulations many little improvements that I could make that would add greatly to its value in my opinion. Anyhow, I have decided that during the coming summer I am going to experiment further along the same lines with three or four of these hives, just to make sure that the success of last summer was not a fluke.

It always struck me when watching bees working in a hive four or five storeys high that they were wasting a great amount of energy on each trip climbing up to the top, and although this may be counteracted to some extent by a plurality of entrances; still, from my observations bees are not inclined to use any entrance freely except the one at the bottom. Now with the "Long Idea Hive" that difficulty is overcome. Also with the ordinary hive the removing of supers at the end of the season from a hive almost as tall as oneself is no light work, and with lady beekeepers would be almost an impossibility. Half-depth supers would suit them better, but they are a bit of a nuisance when running for extracted honey, and I think it is extracted honey that most commercial beekeepers are going to devote their energies to in the future. You will also have noticed that in a season with a light honey flow the bees are given to storing a little honey in a considerable number of frames, instead of filling a few frames to nearly their utmost capacity. Well, I have noticed it a good deal, and it always struck me as a waste of time and energy having to extract from such frames. Well, in my ordinary hives last summer I had quite a number of such frames, but in the "Long Idea" it was most noticeable that the frames were much better filled, although perhaps not such a large number were occupied by the bees.

I think I am correct when I say that the majority of beekeepers in New Zealand do not realise the benefit of packing bees for winter, as they say it is too much trouble, and the climate, especially in the North Island, does not warrant it. Well, I am sure that is a mistake, as I have experimented along that line also, and am quite positive that a properly packed hive in the autumn will well repay the trouble in the spring and the following summer. Well, with the hive with which I experimented (the "Long Idea" hive), it is quite

a simple matter to pack it for winter, whereas it is not such a simple matter to similarly pack an ordinary hive. There are other small points which may appear trivial on paper, but which are by no means trivial when one has many colonies to work, and it is unnecessary to enumerate them all here.

The hive I used of course took the ordinary Hoffmann frames, and the brood nest contained twelve with sufficient room on each side of the brood nest to accommodate 30 more frames (which in an ordinary hive would be termed the supers). On each side of the brood nest I made two saw cuts about half an inch deep, into which I could slip queen-excluding zinc after the honey flow had got a proper start, but prior to this I had allowed the queen as many frames as she required, so she should not be stinted for room. The bottom board I made very nearly the same as the ordinary reversible bottom, but not reversible; and the entrance was the complete length of the front of the hive, but made so that I could have it open all the way along, as would be necessary in the full height of the honey flow, or merely open in front of the central frames—i.e., the brood nest. I arranged this by attaching four strips of half-inch timber, with a screw in one end of each piece, along the entire length of the entrance. The roof, or cover, could be made in a variety of ways, but the one I used was made on the "lean to" style, and was quite effective and damp proof.—I am, etc.

LONG IDEA.

* * * *

(TO THE EDITOR.)

Sir,—My friend Mr. Ward apparently misconstrues my motive regarding my expressed intention to reserve from public propaganda my method of controlled mating of queens and its application to the science of genetics. It is not from any lack of pachydermatous temperament that I made such a reservation. On the contrary I rather pride myself that B.-M. has about as tough an outer integument as any person he ever met, and it is this faculty of calling a spade a spade that has estranged so many of my acquaintances when dirty linen has had to be washed.

I do not intend to either lock my discoveries within my own breast or retain the results that may accrue for my sole benefit. That would be contemptible. What I do intend is that these superior quality queens shall be paid for by all and sundry who, in at least so far as our Journal readers are concerned, have shown themselves to me to be too apathetic and indolent to take the faintest interest in the attainment of so greatly desired a goal as the creation of a superior race of bees by the combination of desirable and the scientific elimination of undesirable traits.

It is one thing to selfishly keep to one's own self a beneficial discovery, and quite another to place it in the hands of those utterly unfitted both by temperament and education to criticise the methods required for the successful maintenance of the effects of such a discovery, only to meet the certain fate of its being damned by faint praise, emanating from such as feel that they must—positively must—air their untutored opinion upon the matter, when they can justifiably claim no shadow of right to such critical attitude.

When in future years I shall have combined such characteristics as Dame Nature in her infinite wisdom may have made possible, then I shall be glad to state that such queens are available for purchase—i.e., except regarding such friends as E. G. Ward and others to whom I shall deem it a privilege to send some for that fair-minded testing I know him or them to be capable of carrying out.

Already I have in my home yard (owing to the accidental opening of a sterilizer containing a thousand combs—bad and suspicious—for destruction) an almost complete contagion of foul brood—(or, rather, did have such an infection before I cured it). Some of the colonies among those that joined in the robbery at the steriliser are perfectly clean, and each queen of such clean hives is either the daughter or granddaughter of my queen "Immunity," whose bees on nine different infections with foul brood combs cleaned out real American foul brood, proven by my own microscopic examination. These queens are blacks, mated to Italian drones. Yet some beekeepers state that Blacks and Nazareths are alike. ("Can any good come out of Nazareth"?) It did—and, metaphorically speaking, it will continue.

At the meeting of the Hamilton Branch of the National Beekeepers' Association, on September 25th, the President (Mr. E. W. Sage) warned those present that a certain local inspector was to have his authority taken away, owing to presence of in his apiary of foul brood. Will Mr. Sage kindly allow me to correct him? The local inspector referred to was myself; and I could not by any possibility have had taken away from me an authority which I had already resigned, I having done so two days before I received notification—not of my deposition from authority, but merely a suspension—by a very kindly worded letter from Wellington, requesting my application for reinstatement as soon as I had received a clean certificate. Thus the barbed innuendo from an officer who had no right even to make the barest suggestion of matters gained only when carrying out his official duties falls short, and leaves E.W.S. euchred once again by one with whom it is impossible that he should successfully measure the sword of intellect. There will be no application for reinstatement. I have too overwhelming an amount of research work and reading to do, proving thereby the truth of King Solomon's proverb, "In much learning is much grief,

and whoso increaseth his knowledge increaseth his sorrow." Query: Is this why some Association presidents are always s lighthearted and casual; yes, and irresponsible, too?—I am, etc.,

H. BARTLETT BARTLETT-MILLER.

October 11, 1919.

(TO THE EDITOR.)

Sir,—I wish first of all to congratulate friend Ward on his "Canterbury Tales," and unite with him in his opinion of Mr. Sage's letter. But what I am more immediately interested in is his most interesting remarks on "Do queens mate only once?" —a point I have been much interested in for some time. The attached article I had written out in anticipation of Mr. Nelson's paper, which he was to have read at Conference, and which I have been expecting to see in the Journal, but as Robert seems too modest, I send this along as my contribution to a very interesting question.—I am, etc.,

W. E. BARKER.

JULES FABRE ON PERMUTATION OF SEX IN "BRAMBLE BEES & OTHERS."

"The sex of the egg is optional: the choice rests with the mother, who is guided by considerations of space, &c. The egg as it issues from the ovary, has not yet a fixed sex; the final impress that produces the sex is given at the moment of laying, or a little before. We are told very curious things about the hive bees—(I will not discuss them)—and the facts asserted are far from being accepted by everybody; but the non-social bees and the predatory insects have nothing special about their laying. Then why should they—the honey bees—escape the common rule which requires that every living creature should come from a fertilized ovule? In its most solemn act—that of procreation—life is one, and uniform: what it does here, it does there, and there, and everywhere. What! The sparule of a scrap of moss requires an antherozoid before it is fit to germinate; yet the ovule of a bee can dispense with the equivalent in order to hatch or produce a male!"

Then he goes on to describe his experiments with Osmia or Mason bees laying unfertilized eggs.

"And why were they unfertilized? Because the seminal receptacle, so tiny, had exhausted its contents. The mothers in whom this receptacle retained a remnant of sperm to the end had their last eggs as fertile as the first; the others, whose seminal reservoir was exhausted too soon, had their last-born stricken with death." And he concludes:—"If the unfertilized eggs perish without hatching, those which hatch and produce males are, therefore, fertilized."

Though agreeing with all Fabre here says, I think he has overlooked one factor in the case—i.e., the inherent maleness in the female. This is well seen when the female organism in an animal is becoming, or has become, sterile, when she ceases to be metabolic, or a builder up and commences to go down the hill of life, or katabolizes, as we say. Then her inherent maleness becomes the dominant factor, and males either are born or she herself takes to herself the ordinary appurtenances of the male in the form of horns, antlers, or hairs. So delicate is this equipoise in Nature that it has been discovered that a failing valuable pedigree mare may be induced to accept a sire and procreate by having the milk of a young mare injected into her veins. Now, in the hive bee we have the case of a female organism becoming trustee to the maleness of a drone. These spermatazoids (they, too, remember, may have inherited male and female tendencies, but the male is the dominant factor) are thenceforward fed and nurtured by her, and become one with her metabolic economy. Now, the point I wish to bring out is this: When a queen begins to fail, she still has the capacity to lay eggs, but not the capacity to add her quota of the fertilizing element; but if her seminal supply is not exhausted she calls on it, and so drones are born with the assistance of her inherited and hitherto recessive or suppressed maleness. Failing both, her eggs are unfertile, and life is doomed. If Mr. Nelson has obtained evidence that a queen does receive a fresh impregnation, it would be most interesting, and solve a big difficulty. I have long had my suspicion that such is the case, as swarming seems to me so plainly a sex impulse, and my reason has always rebelled, like Fabre's, against the possibility of Dzierson's theory. So, likewise, if anyone tells me that a laying worker lays drone's eggs, I feel inclined to say like Jos Billings, that it just "aint so." Till someone shows me them hatching out, then I should look around for the father, for I am loath to believe that the inherent maleness of the female is sufficient of itself to produce what we call life. Now, where there is life there is expenditure of energy, and the queen bee must feed the sperms so long as she is trustee for them, so long as they are in her receptacle or gland, and so a fusion and transfusion of substance between the two must take place, and may be sufficient in the case of the katabolism of the female economy to account for her capacity still to produce drones. Is it unreasonable to believe that this transfusion may have also some effect on the vital energy of the queen, especially when her own is waning, and so help to account for this strange and apparently useless maleness appearing at the close of life.

W. E. BARKER.

(TO THE EDITOR.)

Sir,—Recently in the Journal I have noticed a report that some of our H.P.A. honey had arrived Home in a bad or fermenting condition; also that quite a lot of honey arrives at Bristol with the lids sprung out of the tins. I shall endeavour to throw some light on this condition of affairs, but before doing so would call your attention to an article I wrote explaining

the weather conditions that a ship passes through on a passage from New Zealand to England via Cape Horn, and also that in my opinion a box was a very uncertain package in which to ship honey. Some gentleman who criticised this article said that I had laboured the point (pity, evidently, that I didn't labour it a little more, as he had made inquiries from the shipping clerk of some firm and found that cargo was not stowed near the boilers. What the boilers had to do with the question is best known to the critic (and the shipping clerk). The average shipping clerk knows as much about the stowage of cargo and its transportation across the ocean as, say, a jackass knows about grafting queen cells. I don't mind criticism—in fact, I'd rather have it,—but not from anyone who knows absolutely nothing of what he is criticising. Just so! Now for it! To put the subject clearly, I will again take an imaginary ship loading at Wellington or Lyttelton. Amongst the cargo waiting to be shipped on the wharf is 15 tons light amber honey, packed in 60lb tins, two tins per case. Very well. The stevedores are ready for this stuff in the ship's hold, and the men on the wharf proceed to make up a sling of this cargo, putting 10 or 11 cases in a sling The hydraulic crane is then hooked on to the sling and lifted, "with a slight jerk" hoisted above the hatchway, and lowered down into the ship's hold. Before it is finally landed the lowering is stopped, "with a slight jerk," about 2 feet from the bottom, for the purpose of allowing the stevedores to swing the sling to the place they want it dropped Well, now, what has happened? Just this: Four cases in that sling, if the lever lids are not jambed in pretty tight, fly up, and the larger the lid the more certainty of it flying. I have never used a larger lid than 2½ inches, which I consider is ample, but I have seen honey tins with a four or five inch lid. It is this jerk, be it ever so slight, that causes our tins to arrive at Bristol open. It cannot be avoided, and naturally the more the honey is shipped and transhipped the worse the evil. Now this trouble does not end here. Some of the cargo may be stowed in the wings of the ship, right over against the stringers, and only 8in. or 9in. from the ship's side or skin. As all iron or steel sweats in a low temperature the ship's plates are wringing wet, although not coming in actual contact with any of the cargo. Honey stowed there in an open tin or a butter box is stowed in just about the finest place in the world where it can absorb moisture by the bucketful. Hence your fermentation. I cannot say that any lever lid, be it ever so small, is absolutely safe from being sprung over in loading or unloading the cargo. The only absolutely safe shipping honey tin is one with a screw cap. You can then defy blear-eyed crane-drivers, and need not care what part of the ship's hold it is stowed in. Bye! bye!—I am, etc.,

R. H. NELSON.

Martinborough, 13th Oct., 1919.

Experiences.

C. A. OLDMAN, Waiau.

My beekeeping days date from the year before the Christchurch Exhibition, twelve years or more ago. A neighbour told me a swarm had settled in their hedge and I could have it. Well, I thought it would be nice to have a hive of bees, but I was not game to box them. It ended in mother hiving the swarm, and I carried it home after dark after wrapping a sheet carefully round the box. Exhibition year I had four box hives, and on seeing the Exhibition apiary (I could not be persuaded to go inside the enclosure) I developed bee fever and ordered my first up-to-date hives, transferred my box hives, and discovered bees are not such bad creatures after all. On looking back I realise that my dread of bees was the result of an experience I had as a boy. Mother was a keen beekeeper (box hives), and one winter day I had a look at one of the boxes. Seeing no sign of bees, I got on the box and danced on it. I still remember the peppering my bare legs received, my quick rush inside the house, and the blue-bag (that infallible remedy for bee-stings). What a difference acquaintance makes! Why, now I delight in my bees. I know I can do anything with them, take them up in handfuls, carry swarms on bare arms, etc., without necessarily receiving a solitary sting. I know them now. I can tell when they are pleased, angry, sorrowful, hungry, or otherwise, by their language and conduct. During the years I have been amongst the bees I have had numerous discouragements. I remember one year when I had about 50 colonies. I was so sure the Alexander plan of swarm control and increase was JUST IT. I treated every colony and lost half my prospective crop. The queens put down on one or two frames with brood in below the excluder just simply went on strike, cells were started and swarms issued no matter what I did to prevent them. Finally I put the top brood combs back where they belonged, and the colonies that had not got rid of their queens recovered sufficiently to gather some honey. I have fallen in with other American plans, but not on such a wholesale scale. I had learnt my lesson, and realised New Zealand was not America.

Swarm control in this district is rather a problem, for this reason: During willow bloom, if suitable weather, there is a heavy flow, colonies build up rapidly, and then, just as everything is O.K., the flow ceases, and for six weeks there is nothing doing in the nectar line. But then is the time to test the swarm-control plans. I really believe my best plan would be to de-queen every colony and let them re-queen from picked cells. This would hold them back and at the same time ensure a young queen for each colony, and everything in

full swing again in time for the clover flow. It would also save a considerable quantity of honey, as I have to feed lavishly during this off season. I am continually planning to carry out this programme NEXT season, but when the time comes I generally have some other plan to try out. I like experimenting, and even if I do sacrifice some honey through it, I still prefer to dabble in experiments. Honey (money) is not everything a beekeeper should aim for; it is the splendid opportunities for experimenting and studying that attracts the genuine beekeeper. We realise that we are working with the most wonderful and intelligent insect on this earth.

Foul brood has been a heavy drawback in this locality. Year after year I had to sacrifice my combs and restart with foundation. My home apiary is now clean, but my out apiary is not. I have treated it, but with what result time will show. My plan of combating foul brood is to buy up every diseased hive I can. Last year I bought an apiary of 40 odd hives. The bees were mostly dead, but the disease germs were very much in evidence.

I have just finished rendering and cleaning 600lb of wax. That gives some idea of the work done to get rid of disease. I make my own foundation, and thus save considerably, as it is an expensive business buying ready-made. Do not bury your slum-gum. Use it for the kitchen stove. It beats coal and removes soot. Try it, and be convinced.

I bought a comb-reducer last season to deal with half a ton of nice clover honey from a diseased out-apiary, thinking it would melt and separate the honey and wax, leaving the honey undamaged. I spoilt some honey and wasted a lot of time before I discovered my mistake. Finally I pressed the honey out, and then put the pressed combs through the machine, selling the honey from the machine as manufacturing grade. This machine, used without strainer or separator, is a splendid Solar. I use a two-burner petrol stove under it, and it certainly works well if used as we use the Solar wax machine; otherwise it is a frost.

An incident occurs to me of the time when I kept bees in the township, next the main road. I had a six-feet paling fence between, and one day, as I was working a hive, I heard a heavy thud on the road. Looking up, I caught a glimpse of a horse pulling back on its bridle. Then I heard a man on the ground holding forth about bees and beekeepers. One almost imagined he was back in the box-hive day when the sulphur pit was in vogue. I shifted my bees to a more isolated site shortly afterwards. They were making things too hot. What a blessing to beekeepers our H.P. Association is. All we have to do now is to brand the cases and rail our honey to the nearest port. No running round the towns with a sample to try and persuade some grocer or dealer to give us 3d a lb for our best honey. By the way, I read some criticism about our Journal accepting advertisements from competing firms. I think our Journal is right in accepting such advertisements. Surely honey producers are not fools. Surely we know it's our H.P.A. that has caused the advance in prices. Don't we know perfectly well that once our H.P.A. is put out of action we will have to go back to the old system of sending or producing samples, and, if lucky, getting 3d per lb? Don't we know that these merchants will buy as low as possible and reap all the profit once they settle our association? Let them advertise, and let us beekeepers use our common sense and stick to our Association. Keep the H.P.A. going and beekeeping will be alright; let it die and we die with it. Why, that advertisement in our Journal is a compliment to us—to our Association. Just look at the nice price offered last season—the price our Association forced this firm to offer before it could get honey. Admire the prices, but stick tight to your Association or you will regret it when 3d is offered.

Bees and Beemen of Old.

By BASIL H. HOWARD.

To the critical reader: Let it be understood right here that this article is in no way intended to be a scientifically elaborated treatise on the progress of beekeeping; further, let it be understood that there is here no attempt whatever at a logical treatment of the subject wherein shall be set out the pros and cons and the whys and wherefores. In a word, I am riding my pen on the snaffle.

It is my intention first of all to marshal into a semblance of order a rag-tag collection of facts gathered partly from my own reading, mainly from those scrap heaps of information known as encyclopædias. This shall serve as a prologue. Then I shall set forth in its main outlines the text of the Fourth Georgic of Vergil (I have not the time nor the inclination to argue with precisians on the legitimacy of that spelling), which is the fullest and the most practical treatment of beekeeping bequeathed to us by the Ancients. Under each section given by Vergil I shall group all the matter relevant thereto that I have unearthed on my pick-and-shovel expeditions into the books of times long past. This plan may lead to undue garrulity; but therein I am powerless.

Were it possible for us to retrace the story of beekeeping far back into the beginnings of things we should probably discover that among myriad other wonders of the Garden of Eden there were bees installed in its many nooks, crannies and cavernous tree-trunks. No doubt, Father Adam, inspired by brown Bruin's predatory excursions, spent some exciting, if

painful (remember that he had no tailor) Saturday afternoons plundering honey stores; while Eve, afar off, prepared afternoon tea beneath the vine bower. Yet this is not mere conjecture, for the Bible abounds in references to bees. For instance, in Genesis, Jacob sends his sons to Egypt to buy corn, and they carried "the man" a present—"a little balm and a little honey, spices and myrrh." There is scarce any need to mention that commonplace, "the land flowing with milk and honey." It were time wasted to bring together the other numerous references. One only I shall quote to show that honey producing was a prime industry among biblical peoples. You will find it in Ezekiel, and it runs as follows:—"Judah and the land of Israel . . . traded in thy market, wheat . . and honey and oil and balm."

There are frequent references in the Jewish Talmud (principally in the Vishna). It states with much wisdom that honey is sweet—"it lighteth up the eye of man." Honey in those days was put to multifarious uses. Josephus, the Jewish historian, tells that the body of Aristobulus was preserved in honey much in the way that we preserve centipedes in spirits. That delicious old gossip Pliny records that a monstrous birth, half horse and (I fear) half imagination, was brought, embalmed in honey, from Egypt to Rome for the delectation of Claudius Cæsar.

What the peoples further East knew of bees I must leave to you to discover, as I am not acquainted with Persian, Arabic, Zend, Armenian, and such like twaddle. As for the Egyptians, this will give you cause to think: A hieroglyphic representation of a bee is found on the sarcophagus containing the mummified remains of one Mykerinos, who departed this life in the year 3633 B.C.

Let us pass on to Greece. The hills and vales were thickly clothed with wild thyme and flowering bulbs rich in nectar—a beekeeper's paradise. Bees and honey there were in abundance. Little wonder, then, that scarce a book has been written in the Greek language wherein the bees pass unmentioned. Every writer, were he poet, philosopher or moralist, had a word or more to say on the organisation, the instinct, and the industry of bees—in fact, the eulogy of bees was well nigh a literary commonplace. Further, in those distant days hosts of bookish old gentlemen compiled huge screeds on agriculture and on natural history, among whom Hesiod, Xenophon, Aristotle, Theophrastus, and Democritus. However, bees do not figure very largely in their works. We must look westward across the Adriatic for the first practical treatise on beekeeping.

Roman literature was for long but a pale reflection of that of Greece. In the earlier periods Greek influence was supreme. When a Roman felt the advance symptoms of Cacoethes scribendi he prepared for the onset by searching among his Greek models a medium suited to his requirements. Thus wide fame by making an exit from his sea Cato (not he of Utica, who earned world-of troubles with a mere bodkin) wrote volumes on agriculture and kindred subjects, somewhat after the manner of Theophrastus in his "Life of Plants," or of Aristotle in his "Natural History." Of his works nothing has reached us but a few disjointed fragments—an evil turn of fortune. Terentius Varro followed Cato, though more than a century later. This perambulating encyclopædia, compiled in a long life, 490 tomes on this, that, and the other thing. Two of these treatises have survived. One of them concerns us here. It is a work on practical farming, in which is included a section on practical beekeeping. But of this more anon. Varro's work is important in that Vergil drew largely from it when writing his Georgics.

Now, though the Editor may excise them as being beside the point, I am going to make a few remarks on the occasion and the purpose of Vergil's Georgics. The rural districts of Italy (we cannot here analyse the causes) had become practically depopulated; the farming class was almost extinct; and most of the land was held by companies of business men who grazed cattle and sheep on a large scale. The result was that Rome depended mainly on her provinces for her supplies of wheat and produce. This was a serious state of affairs. But the economic conditions were further aggravated by the fact that the small farmers, who found it impossible to live, were flocking to Rome to swell the rabble. The Emperor Augustus realised the danger of the situation, and attempted to remedy it. Vergil was Court poet, and as such was commissioned to write a poem that should awaken interest in agricultural pursuits and in rural life. He was the right man in the right place. He was not a Roman; he had Celtic blood in his veins; for his father was a farmer of Mantua. Vergil himself did not come to Rome till he was seventeen; so that much of his work is the outcome of practical experience. But there is one fact which we must not forget—namely, that Vergil was no compiler of farmers' handbooks, as were Cato and Varro. He was the greatest poet of his day; a poet who to-day, after the passage of nigh 2000 years, is not denied a place beside the foremost poets of all ages and all nations. Further, let us remember that the Georgics were written, not for the man in the street, but for the upper classes and the literary circles of Rome. The wonder is that, being, as they are, pure literature, the Georgics are of any practical value; or, we should rather say, the wonder is that practical apiculture could be so treated as to find an undisputed place in the world's literature. Imagine yourself writing a treatise on swarm-control in flawless Tennysonian verse!

So, after a long preamble, we have at last reached what is to form the substance of this article, the Fourth Georgic of Vergil.

(To be continued.)

17. BARTLETT-MILLER REDUCERS are procurable with tubes from five inches to nine inches in depth.

18. Lastly, it is the only Reducer that is selling so well that the manufacturer makes this monthly two-page advertisement pay—AND NO WONDER!

Prices and Sizes.

BABY has two troughs between tubes five and a-half inches deep, and has two and a-half square feet of heating surface. It is sold, including the wax and honey separators, for **£4.**

It is used by those in a small way of beekeeping.

BOOSTER comes next in size, and is the same tube depth but is 24 inches long; while our Baby is only 18 inches long. (Did you laugh?) Consequently Booster has three and a-third square feet of heating surface. Quite sufficient for the fifty-hive men, who require it for cappings only, and an occasional broken comb, but too slow to reduce a whole crop from fifty colonies if it was all non-extractable honey and an average crop.

At **£4 12s. 6d.**, including the wax and honey separator, no fifty-hive man can afford to work without it.

BOON is also a two tube-space machine, but has tubes nearly nine inches deep (not quite): and is also, like Booster, two feet long. It is used by those who, like the Inventor, believe that the best pressure for combs in a reducer is—some more combs; and such are piled up as high as ever you like. Also it was put out to meet a demand by those who at times allow honey to candy in tank or elsewhere. The deeper tubes make it serviceable for such work, as well as its legitimate occupation as a comb and capping reducer. Of course any other reducer smaller than Boon melts candied honey, but not so rapidly as Boon does, and when at such a job we want it over quickly. At least I always do.

BOON, with its wax and honey separator, costs **£5 10s.**

EFFECTIVE justifies both its name and its Inventor. It has four tube spaces eight inches deep, and is two feet long. It has eleven square feet of tube and end-well surface, and is so highly appreciated that more Reducers of this pattern have been manufactured than all others sold from my factory put together. It may be called the standard pattern. It suits the 250 colony individual, and when properly attended to puts through OVER one ton a day of honey alone, from the blackest and leatheriest and "pollen boundest" combs you can rake up; BUT Effective won't work without combs in it, or honey; and it won't throw down its bottom openings while the operator is away telling (say, a fruit inspector) what he thinks of him! Someone must look after it all the time.

EFFECTIVE comes up to requirements so consistently whatever the demand upon it that it is no wonder so many put down the extra cost and purchase this size. With the separator it is sold at **£8 15s.**

GLUTTON is a glutton, and so deserves to come last. In some years we get the centres of our combs full of non-extractable honey, so that if such combs also contain a fair amount of pollen we prefer to cut them clean out, after extracting what the extractor will throw out, and re-sheet the wax. Also, one person had a twelve-ton crop of pure manuka honey, and the Glutton was the one and ONLY thing for him. It takes two operators to keep it going at full speed, AND some heat, don't you forget; and as it has six tube spaces, each nine inches deep, and is a yard long, it renders on its twenty-seven square feet of heating surface anything up to three tons of honey a day. Depends on the state of the combs and the attention paid to the work. With its separator it costs **£13 10s.**

For such as have a deal of candied honey to melt up Glutton will pay for itself in about a week, and for those with a large crop of manuka to handle it is the sheet-anchor of successful and satisfactory results. I have one, and it is the greatest boon in all the plant. We never fear candied combs or titree honey while Glutton is at hand. We also have a couple of Effectives, but we do not use them while Glutton is cleaned and ready. We drive it with some of the exhaust steam from our 5 horse-power engine, first running the steam through the uncapping-knife pipe (we have a ⅜in pipe soldered down the centre of our knife) and then into the Glutton. Of course, that knife is SOME hot, and so is the Glutton when two operators are trying to bung it up.

We have never succeeded yet, though, in overloading "him."

[ADVT.]

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